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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/785,522	02/24/2004	Yeu-Der Chih		8308
54657	7590	08/24/2005		
DUANE MORRIS LLP IP DEPARTMENT (TSMC) 4200 ONE LIBERTY PLACE PHILADELPHIA, PA 19103-7396			EXAMINER HOANG, HUAN	
			ART UNIT 2827	PAPER NUMBER

DATE MAILED: 08/24/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/785,522

Applicant(s)

CHIH, YEU-DER

Examiner

Huan Hoang

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 July 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-41 is/are pending in the application.
- 4a) Of the above claim(s) 1-14 and 39-41 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 24-33 is/are allowed.
- 6) ☒ Claim(s) 15-23 and 34-38 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 050604.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

1. Claims 1-14 and 39-41 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on 07/29/05.
2. Applicant's election without traverse of Group III (claims 15-38) in the reply filed on 07/29/05 is acknowledged.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 15 and 16 are rejected under 35 U.S.C. 102(b) as being anticipated by Wong et al.

Wong et al. discloses a memory array utilizing cells with one split gate transistor having all the elements as recited in claims 15 and 16 as follows:

an array of one transistor split gate cells arranged into rows and columns (Fig. 1 and column 3, lines 23-31) in which even addressed cells are located in a first

row of cells (RL0, Fig. 3) and odd addressed cells are located in a second row of cells (RL1, Fig. 3);

a split source line (SL0 and SL1 and a common line connected to RL0 and RL1 via transistors 366, Fig. 3) connected to said even and odd addressed cells;

said first row being connected with a first word line and said second row being connected with a second word line;

said cells in one of said columns being connected to a bit line (CL0, Fig. 3);

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 17 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wong et al. in view of Kang.

Wong et al. discloses all the limitations of claims 17 and 18 (Fig. 3) except for the first and second rows connected with first and second word lines by segmenting the first and second word lines into word line segments and each word line segment driven with a word line driver. However, Kang discloses a memory array having a plurality of word lines segmented into word line segments and each word line segment driven with a word line driver (f32 and 33, Fig. 11) to enable one of the word line drivers (column 7, lines 64-67) to select one of the word line segments. It would have been obvious to one

having ordinary skill in the art at the time the invention was made to use a plurality of word line drivers corresponding to a plurality of word line segments in order to select one of the word line segments in a memory device.

7. Claims 19-21 and 34-36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wong et al. in view of Shizukuishi.

Wong et al. discloses all the limitation of claims 19-21 and 34-36 (Fig. 3) except for the memory cells with two split gate transistors. However, Shizukuishi discloses the use of memory cells with two split gate transistors (Fig. 1A) to provide high-speed reading. It would have been obvious to one having ordinary skill in the art at the time the invention was made to use memory cells with two split gate transistors to provide high-speed reading in a memory device.

8. Claims 22, 23, 37 and 38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wong et al. in view of Shizukuishi of Kang and further in view of Kang.

Wong et al. and Kang discloses all the limitations of claims 22, 23, 37 and 38 except for the first and second rows connected with first and second word lines by segmenting the first and second word lines into word line segments and each word line segment driven with a word line driver. However, Kang discloses a memory array having a plurality of word lines segmented into word line segments and each word line segment driven with a word line driver (f32 and 33, Fig. 11) to enable one of the word line drivers (column 7, lines 64-67) to select one of the word line segments. It would have been obvious to one having ordinary skill in the art at the time the invention was

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made to use a plurality of word line drivers corresponding to a plurality of word line segments in order to select one of the word line segments in a memory device.

Allowable Subject Matter

9. Claims 24-33 are allowed.

The following is a statement of reasons for the indication of allowable subject matter:

The prior art does not teach or suggest the following:

a floating gate shared between a first and a second split gate transistor of said three split gate transistors, and said cells in one of said columns being connected with a first program bit line, a second program bit line and a read bit line.

a floating gate shared between a first and a second split gate transistor of said two split gate transistors, and said cells in one of said columns being connected with a first program bit line, a second program bit line and a read bit line.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Huan Hoang whose telephone number is (571) 272-1779. The examiner can normally be reached on Mon-Fri 8:30AM-5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hoai Ho can be reached on (571) 272-1777. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Huan Hoang
Primary Examiner
Art Unit 2827

HH
8/21/05